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December 16, 1991

Meeting Minutes Transmittal/Approval
100 Area Field Activities
450 Hills Street, Room 47
Richland, Washington
November 21, 1991

From/ Appvl.: Eric Goller Date: 1/23/92
Eric Goller, Unit Manager, DOE-RL (A5-19)

Appvl.: L Goldstein Date: 12/27/91
Larry Goldstein, 100-HR-1/BC-1/BC-5/NR-1/KR-1 Unit Manager, WA
Department of Ecology

Appvl.: Douglas R. Sherwood Date: 12/17/91
Douglas R. Sherwood, 100-HR-1/HR-3/DR-1/BC-1/BC-5 Unit Manager,
EPA (BB-01)

Meeting Minutes are attached. Minutes are comprised of the following:

- Attachment #1 - Meeting Summary/Summary of Commitments and Agreements
- Attachment #2 - Attendance List
- Attachment #3 - Agenda
- Attachment #4 - Commitments/Agreements Status List
- Attachment #5 - Approval Request: 100-HR-3, Analytical Sampling
- Attachment #6 - Approval Request: 100-HR-3, Well #22
- Attachment #7 - Approval Request: 100-NR-2, Deep Wells
- Attachment #8 - Approval Request: 100 Area, Geophysical Logging
- Attachment #9 - November UMM Agenda for 100-DR-1 Operable Unit

Prepared by: Doug Fosselt Date: 1/24/92
SWEC Support Services

Concurrence by: C S Krug Date: 1/23/92
WHC Coordinator



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**100 Area Field Activities
November 21, 1991**

Distribution:

Pamela Innis, EPA (B5-01)	Ronald D. Izatt (A6-95)
Donna Lacombe, PRC	Director, DOE-RL, ERD
Ward Staubitz, USGS	Ronald E. Gerton (A6-80)
Diane Clark, DOE (A5-55)	Director, DOE-RL
Doug Fassett, SWEC (A4-35)	Roger D. Freeberg (A6-95)
Mary Harmon, DOE-HQ (EM-442)	Chief, Rstr. Br., DOE-RL/ERD
Mike Thompson, DOE-RL (A5-19)	Steven H. Wisness
Tom Wintczak, WHC (B2-15)	Tri-Party Agreement, Prog. Mgr.
Mel Adams, WHC (H4-55)	Richard D. Wojtasek (B2-15)
Merl Lauterbach, WHC (H4-55)	Prgm. Mgr. WHC
Linda Powers, WHC (B2-35)	
Don Praast, GAO (A1-80)	
David Pabst, WHC (B2-35)	

ADMINISTRATIVE RECORD: 100-HR-1, 100-HR-3, 100-DR-1, 100-BC-1, 100-BC-5,
100-KR-1, 100-KR-4, 100-NR-1, 100-NR-3; Care of Susan Wray, WHC (H4-51C)

Please inform Doug Fassett (SWEC) of deletions or additions to the
distribution list.

Attachment #1

Meeting Summary and Summary of Commitments and Agreements 100 Area Activity Summary November 21, 1991

1. **Work Plan Review Cycle:** Jim Goodenough announced that Eric Goller will be the Unit Manager for all of the 100 Area investigations. Merl Lauterbach briefly discussed additions to the work outlined in the work plans, specifically related to the M 30-03 Milestone. He stated that he does not have a problem with good ideas for additional work if funding can be found and so long as such work is considered outside of the milestones for the investigations.

Chuck Cline indicated that Larry Goldstein was writing a letter requesting an extension to December 9 for submitting the Ecology comments on the 100-HR-1, -3, and DR-1 work plans. It was not known what schedule EPA had for their comments on BC-1 and -5. Alan Krug noted that the original comment disposition schedule allowed 15 days for response preparation. Chuck Cline stated that Larry Goldstein indicated that the disposition schedule would be extended accordingly.

Jim Goodenough asked about Regulator response to the Letter Reports that were submitted to them in late summer summarizing the agreements reached in the rescoping meetings. Chuck Cline agreed to discuss getting them signed with Larry Goldstein.

The 100 FR-1 and -3 Work Plans will be submitted on schedule, and the NR-1 and -2 Work Plan preparation is also on schedule. Chuck indicated that the comments are based on the fact that the work plans are fairly generic.

2. **100-HR-1:** Jeff Ayres reported that septic tank *raw not validated* data packages should be available *for information* by the January UMM. Sampling of the PCB electrical facility was scheduled for the first two weeks of December, but Ecology's comments on the DOW are not in yet and the work may be delayed. Merl mentioned that a two week turnaround on review of the DOWs was agreed to, and that extended reviews will impact on the work. Chuck Cline noted that the DOW for this work was given to the regulators two weeks later than scheduled. The process pipeline integrity assessment is concluded, and the report should be released by the January UMM. Vadose zone boreholes may be started in February 1992, if drilling does not fall behind schedule due to the holidays.
3. **Thanksgiving week scheduling:** The labs are not accepting samples next week to prevent samples from backing up during the Christmas shutdown. Drilling and sampling are also shut down for next week (Thanksgiving).
4. **100-HR-3:** Steve Vukelich reported on drilling at 100-HR-3. A clay layer was encountered in #10 that was over 50 ft. thick. This clay has been identified in several previous boreholes and is being explored in boreholes currently being drilled throughout the 100-H area. The water table is at 55 feet, and the head below the clay is at 54 ft.

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Field test kits for chromium have been ordered and will be used on this site. Action levels will be determined after background is determined.

A proposal for a change in the sampling plan for wells that have been determined to be out of the area where groundwater had mounded was presented, see Attachment 5. A second proposal for replacing the originally planned well #22 with a well in a deepened RCRA boring was presented, see Attachment 6. A discussion followed on the purpose of well #22 and whether the new location was appropriate. Steve Vukelich pointed out that well #21 would monitor the sodium dichromate barrel location. A third proposal, for only drilling one deep well as part of the initial investigation, was presented, see Attachment 7. And finally, a fourth proposal for a strategy to best utilize the available capacity for spectral gamma logging was offered, see Attachment 8. Chuck Cline restated his plan for gamma logging, and the various factors and rationales involved in plans were discussed. These proposals will be discussed at the meeting next Tuesday on the sampling and analysis plans.

Steve Vukelich then discussed problems with the collection/physical analysis of soil samples from under the liquid effluent source areas. The samples from the appropriate horizons are radioactive and the off-site laboratories will not take them, and the on-site laboratory will not be available until February. Archiving of the samples was discussed and it was mentioned that samples were being archived on-site at the 200-BP-1 operable unit. This will also be discussed next Tuesday. Ecology's comments on the Scope of Work for 100-HR-3 and 100-DR-1 were then discussed.

Steve Vukelich indicated that better maps of the 100 Area are in preparation. Large scale topographic maps have been produced, and a set of 54 was given to each of the regulatory agencies.

5. 100-DR-1: Naik Naiknimbalkar gave an update on activities at 100-DR-1, see Attachment 9. A slide showing the proposed locations for the sampling pits at the sodium dichromate tanks was presented, and approval was requested.
6. **Descriptions of Work:** The purpose and content of the Descriptions of Work (DOWs) were discussed. The Ecology representatives stressed that they wanted the Descriptions of Work to be very detailed and explain everything thoroughly. Rich Hibbard suggested that the DOWs should be submitted to the regulators more than two weeks in advance so that there would be enough time to resolve comments. Alan Krug noted that the level of detail requested for the DOWs is much greater than was in the work plans that were approved.
7. **100-BC Area:** Roberta Day reported that PCB sampling will be done in concert with the 100-H Area, in December. Drilling activities may be started ahead of schedule, March for groundwater and June for vadose, and a DOW will be submitted soon.
8. **100 Aggregate Area:** Steve Weiss reported on the various ecological and cultural reports underway, and indicated that the spring sampling was

done. Bob Peterson reported that IT is compiling all available information on spring locations and past spring sampling. He also indicated that work on the topics of timing of changes in groundwater chemistry and seepage chemistry as a function of fluctuation of river levels has begun. The procedure for dealing with regulator comments on the 30-01 and 30-02 Milestones was discussed. A meeting will be arranged.

Action Item #1AAMS.2: WHC, DOE and the regulators are to meet to resolve questions on the 100 Area investigations. Topics to be discussed include geophysical logging, physical testing, archiving of "hot" samples, aquifer testing, etc. This meeting is tentatively scheduled for November 26, 1991.
Action: Merl Lauterbach (11/21/91)

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Attachment #2

Attendance List 100 Area Field Activities November 21, 1991

Name	Organization\Responsibility		Phone
Goller, Eric	DOE-RL	GW OU Manager	509-376-7326
Goodenough, Jim	DOE-RL	100 Areas O.U.	509-376-7087
Cline, Chuck	Ecology	U.M. Hydrogeo.	206-438-7556
Hibbard, Rich	Ecology	Unit Support	206-493-5367
Mauss, Billie	Ecology	OU support	509-546-2993
Teel, Darci	Ecology	OU Manager	509-545-2312
Innis, Pamela	EPA	Unit Manager	509-376-4919
Mullen, Richard	PMX	Ecology Support	206-455-2550
Kane, William F.	PMX	Ecology Support	206-455-2550
Long, Phil	PNL		509-376-7669
Fryer, Bill	SWEC	GSSC	509-376-9830
Ayres, Jeff	WHC	100-HR-1	509-376-3918
Day, Roberta	WHC	100-BC-1	509-376-7602
Krug, Alan	WHC	100 HID Areas	509-376-5634
Karr, Ted	WHC	ER Program Office	509-376-1702
Lauterbach, Merl	WHC	Env. Engr.	509-376-5257
Naiknimbalkar, N. M.	WHC	100-DR-1	509-376-8739
Paterson, Jim	WHC	ER Program Office	509-376-0568
Peterson, R.E.	WHC	100 Agg. Area GW	509-376-5858
Pool, Karl N.	WHC	WHC OSM	509-373-3137
Vukelich, Steve	WHC	100-HR-3	509-376-5158
Weiss, Steve	WHC	100 Agg Area	509-376-1683
Drost, Brian	USGS	EPA Support	206-593-6510
Staubitz, Ward	USGS	EPA Support	206-593-6510

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Attachment #4

Commitments/Agreements Status List Aggregate Area Status November 21, 1991

Item No.	Action	Status
1HR1.28	Determine when the topographic mapping will be available on HEIS, who is responsible for digitizing the mapping, and when it will be available. Action: Alan Krug (11/15/90)	Open: Remains open on the question of when the data will be in HEIS. (7/18/91)
1HR3.29	Provide regulators with information about the situation concerning the cooling-water discharge pipeline/vent pipes on the island opposite D reactor. Action: Jim Goodenough (11/15/90)	Open: WHC sent a letter to DOE requesting guidance on the extent of NEPA documentation required and is awaiting DOE's response. (7/18/91)
1HR3.32	Regarding the removal of the vent pipes, WHC will: 1) Determine the need for an ACE permit; 2) obtain a letter from ACE that gives approval to begin work before the need for the permit is determined; and, 3) draft letters on the matter to the Natural Resources Trustees. Action: A. Krug (1/15/90)	Open: Pending overall resolution (7/18/91)
1NR.3	Provide to Ecology (and EPA if desired) the DOE guidance documents that are needed. Action: Larry Goldstein (7/18/91)	Open: Larry Goldstein will send a letter specifying exactly what supporting documents Ecology would like to receive. (7/18/91)
1AAMS.1	The 100 Area schedule assumptions presented by Merl Lauterbach are to be discussed with the regulators and resolved. Action: Doug Sherwood, Larry Goldstein, Mike Thompson (9/19/91)	Open

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**November Unit Managers Meeting
Agenda - 100 Areas**

Work Plan Cycle

1. 100-HR-1, 100-DR-1, 100-HR-3, 100-BC-1 & 100-BC-5 Comments are due by November 30, 1991.
2. 100-FR-1 & 100-FR-3 Work Plans are due November 30, 1991.
3. 100-KR-1 & 100-KR-4 comments are due by December 31, 1991.
4. 100-NR-1 & 100-NR-2 Work Plans are due by December 31, 1991

100-HR-3 (Steve Vukelich)**Status Items:**

1. Have completed drilling wells 8 & 10. We are now drilling wells 9 & 11.
2. Added soil screening for Cr^{+6} at 5 ft. intervals. Field data will be required before action levels can be determined.

Discussion Items:

1. No chemical sampling of soils in the 600 Area wells or wells 7 & 17 unless contamination is detected by screening instruments.
2. Convert RCRA solar basin background boring into a well. This well will replace well #22.

100-NR-2 (Steve Vukelich)**Discussion Items:**

1. Only one deep well will be drilled in the N Area, rather than the two originally presented.

100-HR-1 (Jeff Ayres)**Status Items:**

1. 1607-H2 Septic Tank Sample Analyses
2. PCB Sampling at Electrical Facilities
3. Process Effluent Pipeline Integrity Assessment
4. Vadose Borehole Drilling

100-DR-1 (Naik Naiknimbalkar)**Status Items:**

1. Vadose Borehole Drilling
2. Soil Gas Surveys
3. Surface Radiation Survey

Discussion Items:

1. Sampling of Sodium Dichromate Tanks (2):

100-BC-1 (Roberta Day)**Status Items:**

1. PCB Sampling at Electrical Facilities
2. Vadose Borehole Drilling

100-BC-5 (Roberta Day)**Status Items:**

1. Groundwater Well Drilling

100 Aggregate Area (Steve Weiss)**Status Items:**

1. Ecological Investigations are ongoing.
2. Cultural Resources Investigations for the Reactor areas are complete.
3. Spring Sampling Analyses

General Topic Discussion Items

1. Geophysical proposal (Steve Vukelich)
2. Physical Properties (Steve Vukelich)
3. Laboratory Analysis Protocol (Roberta Day)

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From: Jim D Goodenough at -DOE6 11/21/91 8:46AM (734 bytes: 13 ln)
To: Roberta E Day at -WHC68, Merl J Lauterbach at -WHC249, Alan D Krug at
-WHC249
Subject: 100-AREA UMM AGENDA

----- Message Contents -----

Under the heading of General Topics, suggest adding the following:

4. DOW Approval, Electrical Sampling
5. DOW Approval, 100-HR-1, 100-DR-1, 100-HR-3 Drilling
6. Formal Ecology Approval of remaining vadose and groundwater drilling schedules, 100-HR & 100-DR.
7. Ecology letter on N-Springs ERA, need for separate meeting to discuss RL's response to the Ecology Letter dated November 1, 1991.

Jim G.

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November 21, 1991

APPROVAL REQUEST

100 HR-3

Request: Analytical samples not be taken from wells 7, 17, 20, 21 and 22 unless screening instruments detect contaminants.

Reason: Wells 7 and 17 monitor solid waste disposal sites and are expected to be outside of any zones of groundwater mounding. Wells 20, 21 and 22 are located in the 600 Area between D and H and soil contamination is not expected.

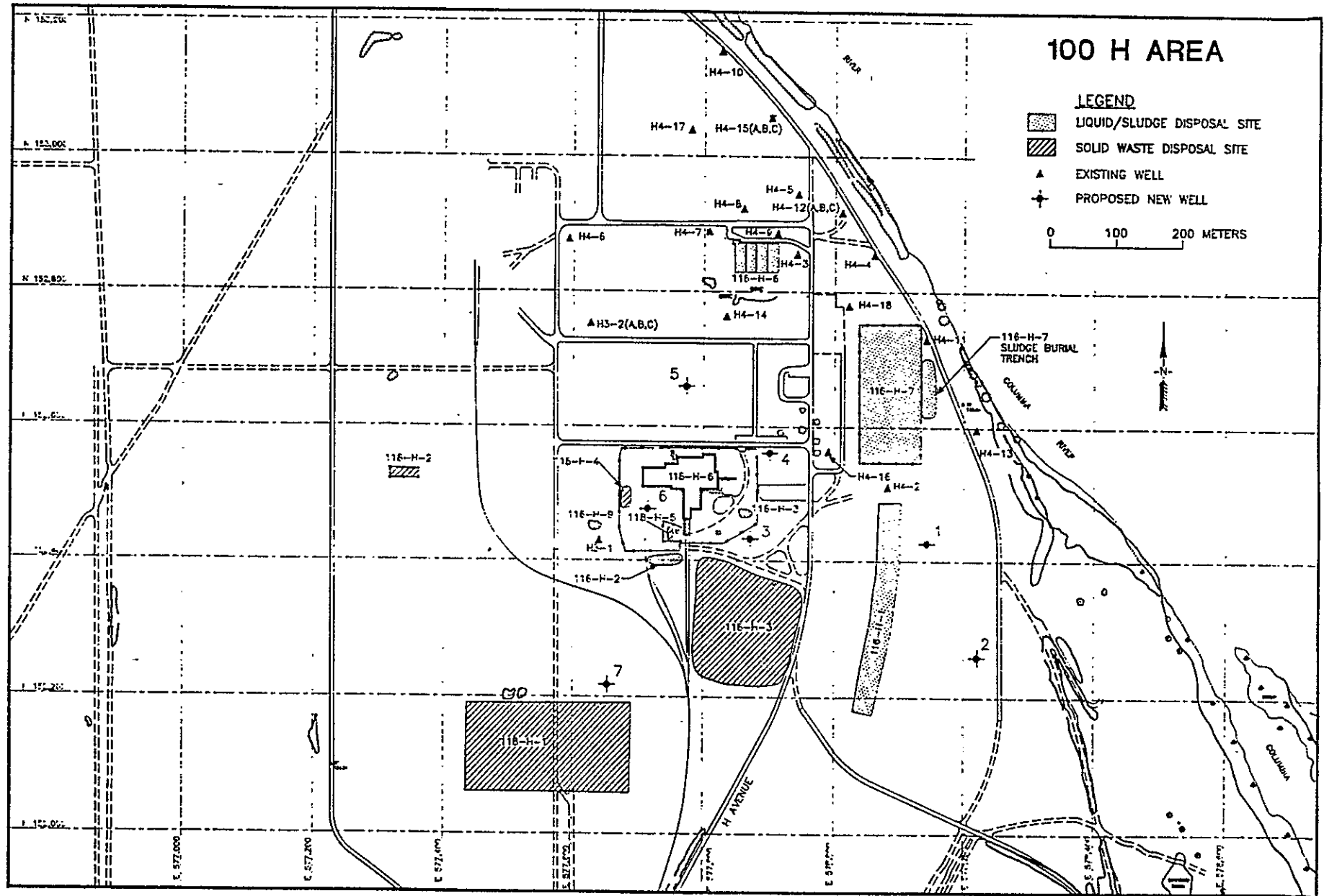
Approval: _____

Title: _____

Agency: _____

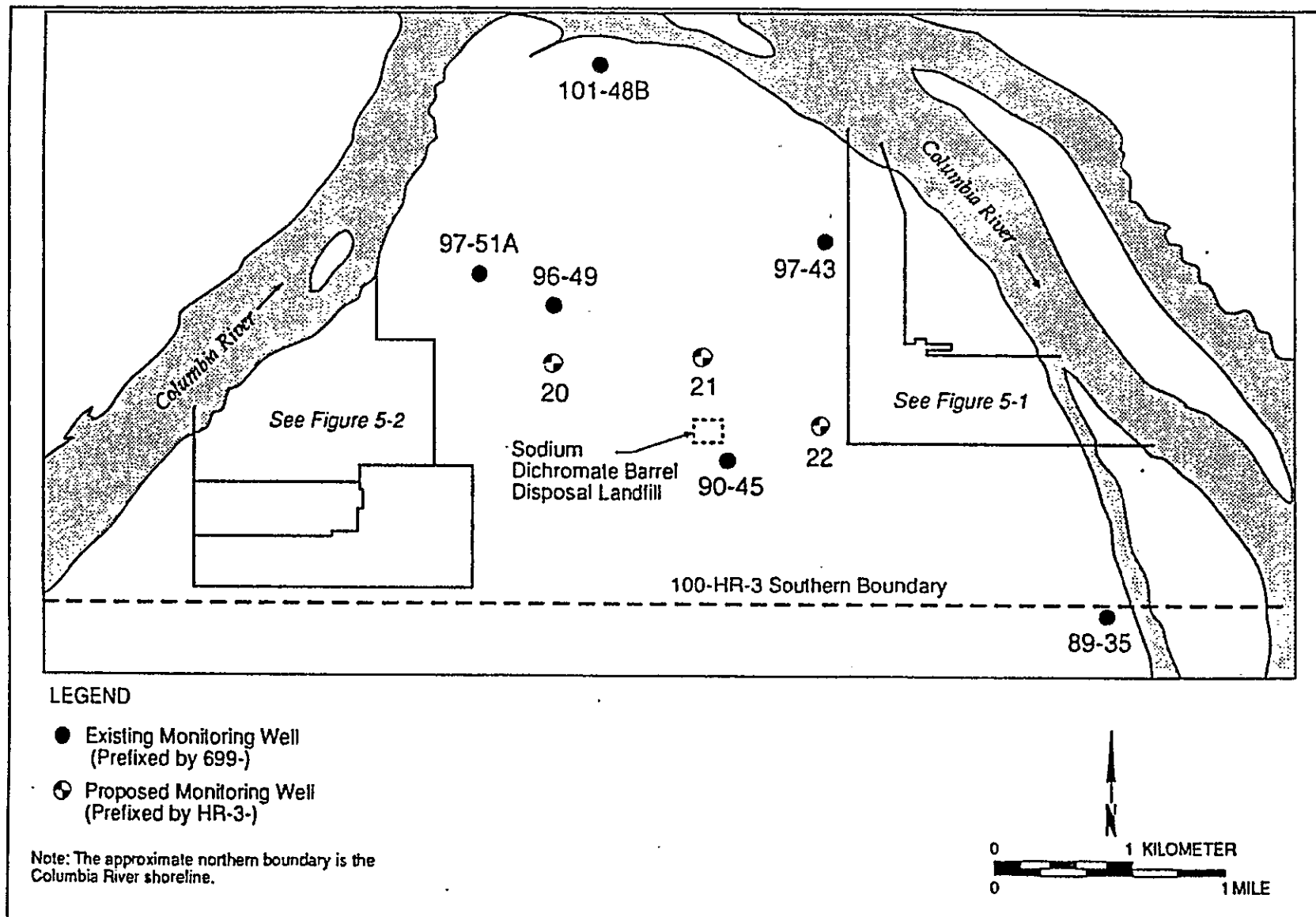
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WP SF-3

DOE/RL-88-36
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903-1282/26465/9-10-91

Figure 5-3. Approximate Locations of Existing and Proposed Monitoring Wells in the 600 Area.

November 21, 1991

APPROVAL REQUEST**100 HR-3**

Request: Deepen the RCRA solar basin background boring and install a well. This well will replace well 22.

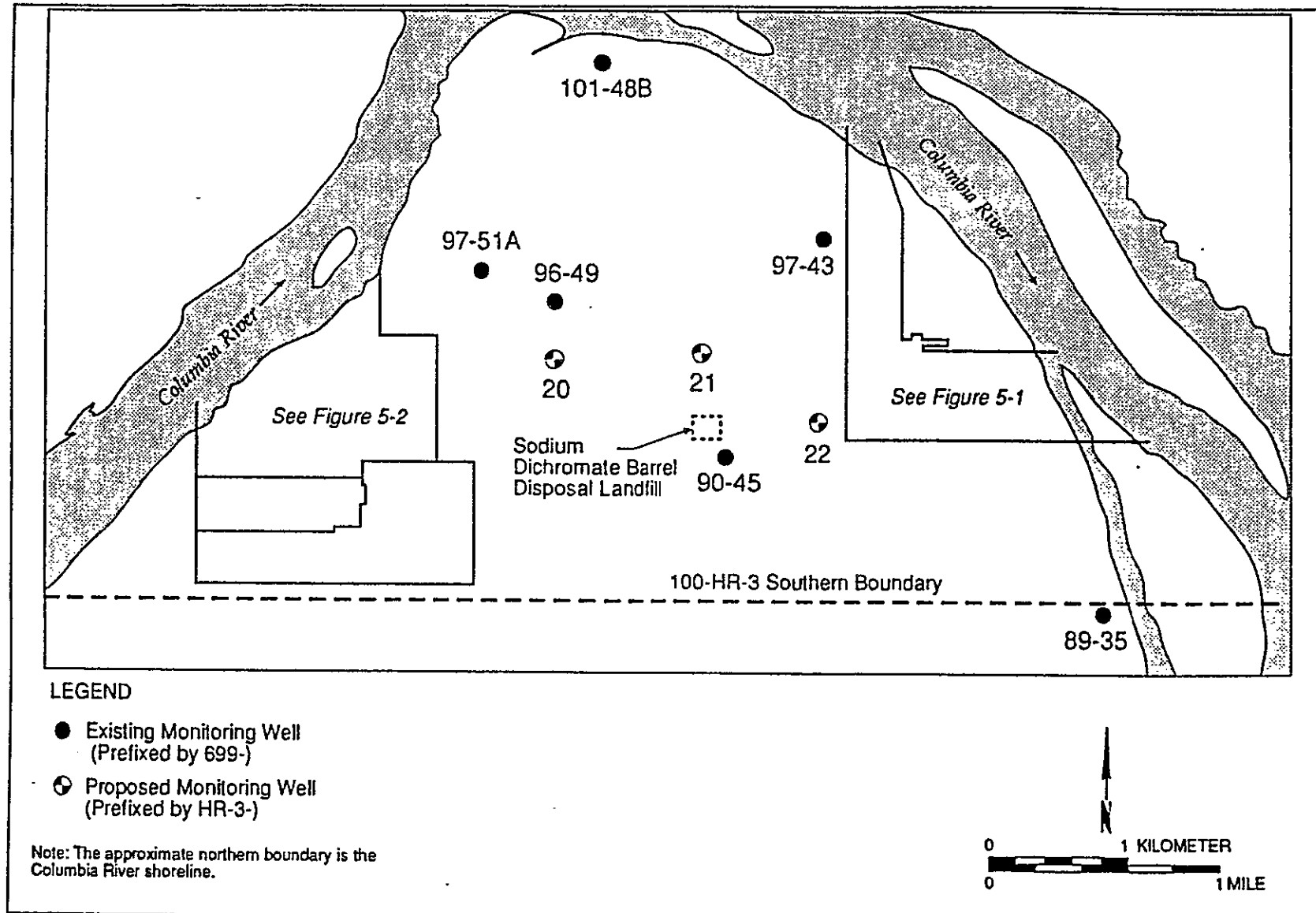
Reason: The RCRA background boring is located in the 600 Area between D and H Areas but closer to H Area. Deepening this boring and installing a well will reduce drilling costs because only one hole will be drilled, but two purposes will be served. The first purpose is to monitor the groundwater between the D and H Reactor Areas for the CERCLA program and the second purpose is to collect background soil data for the RCRA program.

Approval: _____

Title: _____

Agency: _____

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903-1282/26465/9-10-91

Figure 5-3. Approximate Locations of Existing and Proposed Monitoring Wells in the 600 Area.

November 21, 1991

APPROVAL REQUEST

100 NR-2

Request: Drill only Well #1 of the 2 deep wells that DOE, Ecology and Westinghouse agreed to in the meeting at the Ecology office on July 2, 1991. The locations of the two wells are shown on the attached map.

Reason: Since this meeting, the strategy for well placement in the 100 Areas (not specific to the N Area) has evolved through negotiation to include the following.

1. Drill wells to define groundwater quality in areas of potential public or environmental exposure (eg. between contaminant sources and the Columbia River). These wells will be drilled in this investigation.
2. Drill wells to define groundwater quality immediately downgradient of priority and potential sources of groundwater contamination. These wells will be drilled in this investigation.
3. Drill wells to fill regional hydrogeologic data gaps in areas lacking sufficient data necessary to obtain the final ROD. These wells will **not** be drilled in this investigation.
4. Drill one deep well in each reactor area. This well will be located between a major contaminant source and the Columbia River.

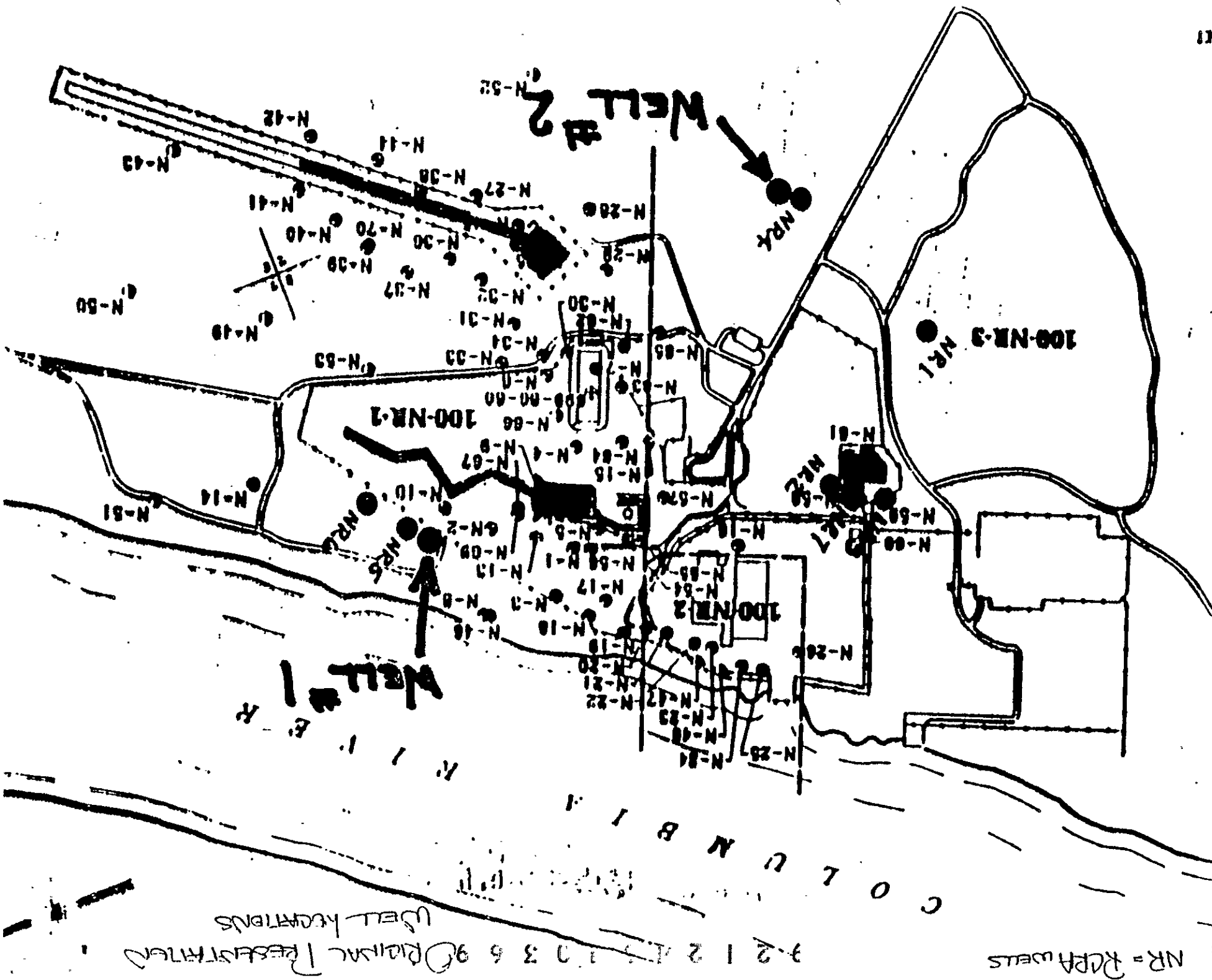
To be consistent with this 100 Area approach, Well #2 will not be drilled in this investigation. This second well is located upgradient of all major contaminant sources and best serves the purpose of filling in regional groundwater quality data gaps.

Approval: _____

Title: _____

Agency: _____

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NR = RPA wells

3-2 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

Well locations

November 21, 1991

APPROVAL REQUEST

100 AREA

Vadose Borings Gross gamma log the final casing string in all vadose borings and spectral gamma log vadose boring 116-D-1A. Other borings will be spectral gamma logged as discussed below.

Groundwater Wells Geophysical log as described in the Work Plans. For 100 HR-3, gross gamma log the one deep well (199-D8-54B) and spectral gamma log wells 199-D8-55 and temporary well #1 (H Area). Additional wells will be spectral gamma logged as discussed below.

Spectral Gamma Logging This fiscal year, 30 bore holes (existing wells, new wells and vadose borings) are planned for spectral logging in the 100 Areas. These 30 spectral logs will provide the best information if the locations are determined based on information learned during the investigation rather than pre-assigning the locations. As the investigation unfolds, specific spectral gamma locations will be presented at the monthly Operable Unit Manager's meetings for approval. In general, if radiation is not detected by screening instruments in the new wells and vadose borings, they will not be spectral gamma logged.

Approval: _____

Title: _____

Agency: _____

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100 D/DR AREA

LEGEND

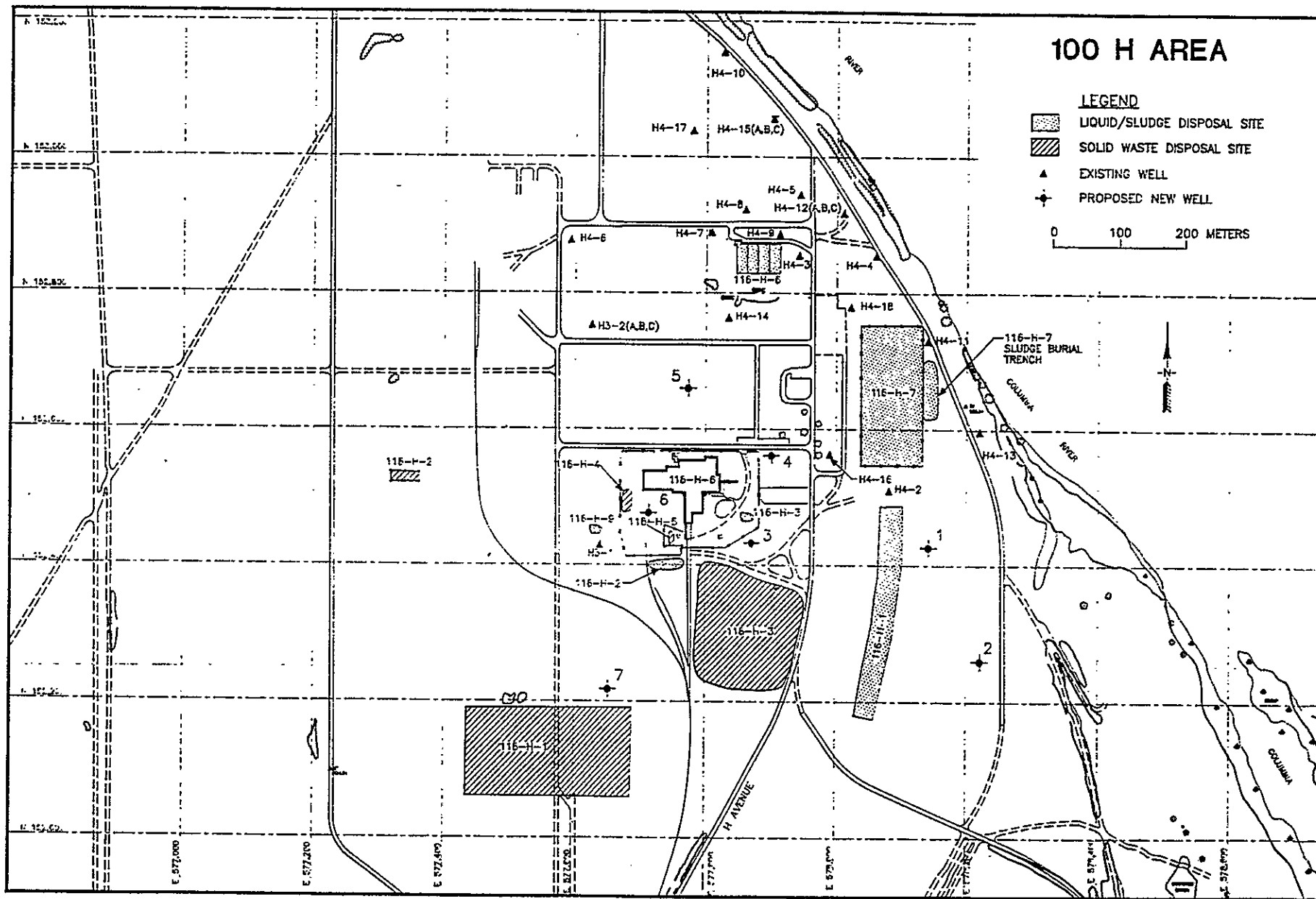
- [Stippled Area] LIQUID/SLUDGE DISPOSAL SITE
- [Hatched Area] SOLID WASTE DISPOSAL SITE
- [Circle with Crosshair] EXISTING WELL
- [Triangle with Crosshair] PROPOSED NEW WELL
- [Square with Crosshair] PROPOSED NEW DEEP WELL
- [Small Square] PROPOSED RCRA WELL

0 100 200 METERS

The map shows a grid system with Easting coordinates (E 571,800 to E 574,600) and Northing coordinates (N 151,400 to N 152,400). Key features include:

- Disposal Sites:** 107-D SLUDGE DISPOSAL TRENCHES, 107-DR SLUDGE DISPOSAL TRENCHES, 116-D-1 through 116-D-18, 116-DR-1 through 116-DR-8.
- Wells:** 116-D-1 through 116-D-18, 116-DR-1 through 116-DR-8, 116-D-9, 116-D-10, 116-D-11, 116-D-12, 116-D-13, 116-D-14, 116-D-15, 116-D-16, 116-D-17, 116-D-18.
- Infrastructure:** COLUMBIA RIVER, D AVENUE, 116-D-1, 116-D-2, 116-D-3, 116-D-4, 116-D-5, 116-D-6, 116-D-7, 116-D-8, 116-D-9, 116-D-10, 116-D-11, 116-D-12, 116-D-13, 116-D-14, 116-D-15, 116-D-16, 116-D-17, 116-D-18.

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NOVEMBER UMM AGENDA FOR 100-DR-1 OPERABLE UNIT

o VADOSE BOREHOLE DRILLING:

Through November 21, 1991 four boreholes have been completed.

One hole was drilled at 116-D-1A Fuel Storage Basin Trench No. 1. The hole was drilled to a depth of 53.2 feet. Total number of samples, including one duplicate and one trip blank, were 13. All samples were sent to Weston Laboratories.

The highest Rad counts per minute was 1500 at approximate depth of 18 feet.

One hole was drilled at 116-D-1B Fuel Storage Basin Trench No. 2. The hole was drilled to a depth of 36.8 feet. Total number of samples, including one split and one equipment blank, were 8. Seven samples were sent to Weston and one was sent to TMA.

The highest Rad counts per minute were 1100 at depths of 15 and 20 feet.

Also completed were two holes (one hole each) at 116-DR-1 and 116-DR-2 Liquid Waste Disposal Trenches. These holes were drilled to depths of 40.2 and 37.0 feet respectively.

The highest Rad counts per minute, at a depth of 18 feet for 116-DR-1 was 900. For 116-DR-2 the highest Rad counts per minute was 400 at a depth of 15 feet.

o SOIL GAS SURVEYS:

To date, 96 soil gas probes have been installed and monitored at the following sites in the 100-DR-1 Operable Unit.

- o 1713-D Instrument and Electrical Development Laboratory
- o 1714-D Solvent Storage Building
- o 1715-D Oil and Paint Storage Building
- o 1716-D Gas Station and 130-D-1 Underground Storage Tank Excavation Area
- o 1722-D Equipment Development Laboratory
- o 184-DA Fuel Oil Storage Tank
- o 166-D Fuel Oil Tank Site and Underground Fuel Oil Lines
- o Paint Shop West of 182-D Reservoir.

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A sampling grid consisting of 99 points has been laid out over the 126-D-2 Solid Waste Landfill.

To date, 59 probes have been installed at the landfill. There are 24 sample points remaining that need soil gas probes installed.

There are five other sites remained to be monitored in 100-DR-1 Area. They are:

- o 103-D Fuel Element Storage Building
- o Burial Ground 4A
- o Burial Ground 4B
- o Burial Ground 18
- o 1607-D4 Septic Tank

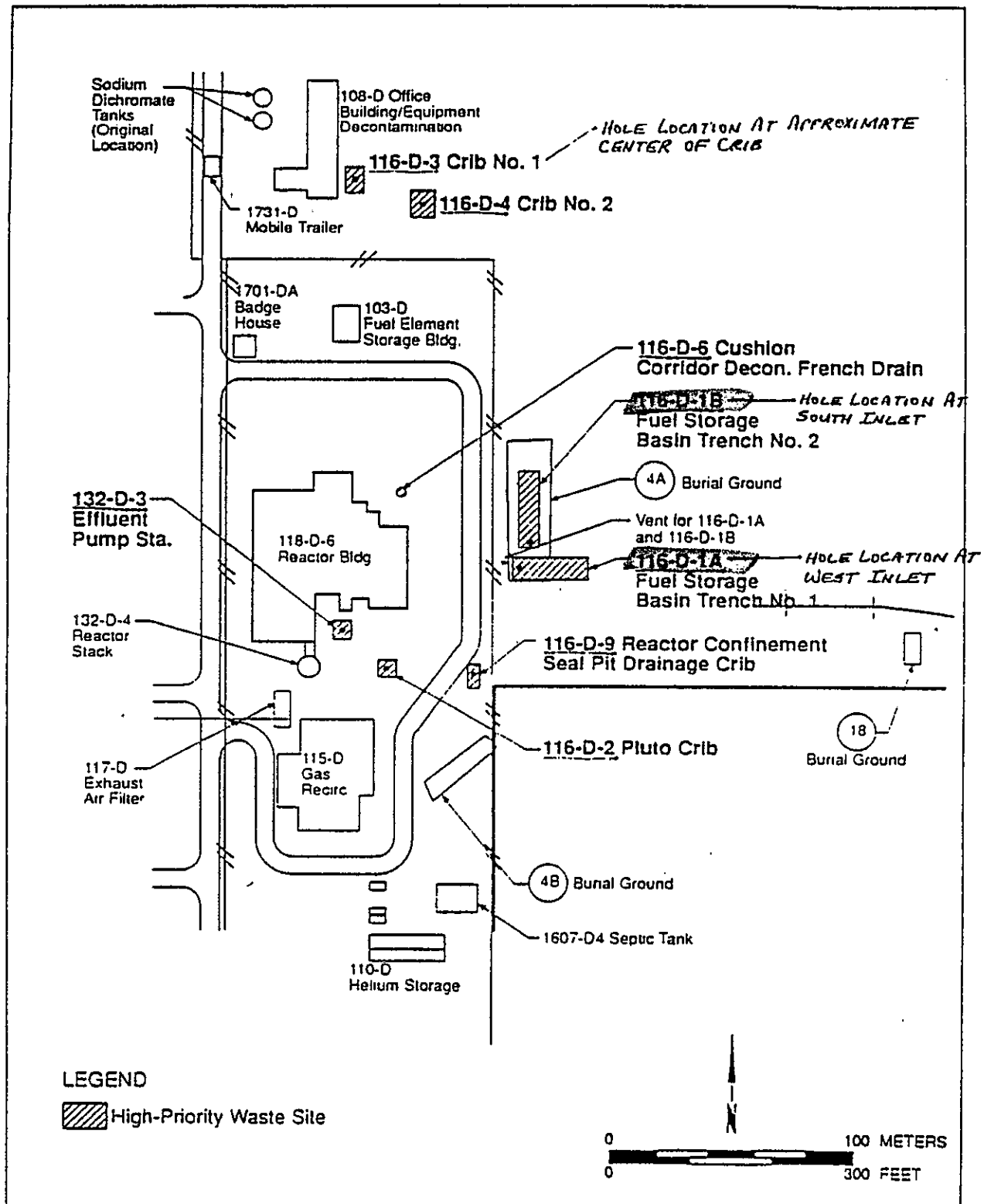
o SURFACE RADIATION SURVEY:

The USRADS crew from this project has been temporarily diverted to assist the Shoreline Radiation Survey crew. They will assist for approximately, 1-2 weeks to put the shoreline team back on schedule. This is not expected to impact the 100-DR-1 OU as the shoreline crew will then assist the USRADS crew.

o SODIUM DICHROMATE TANKS:

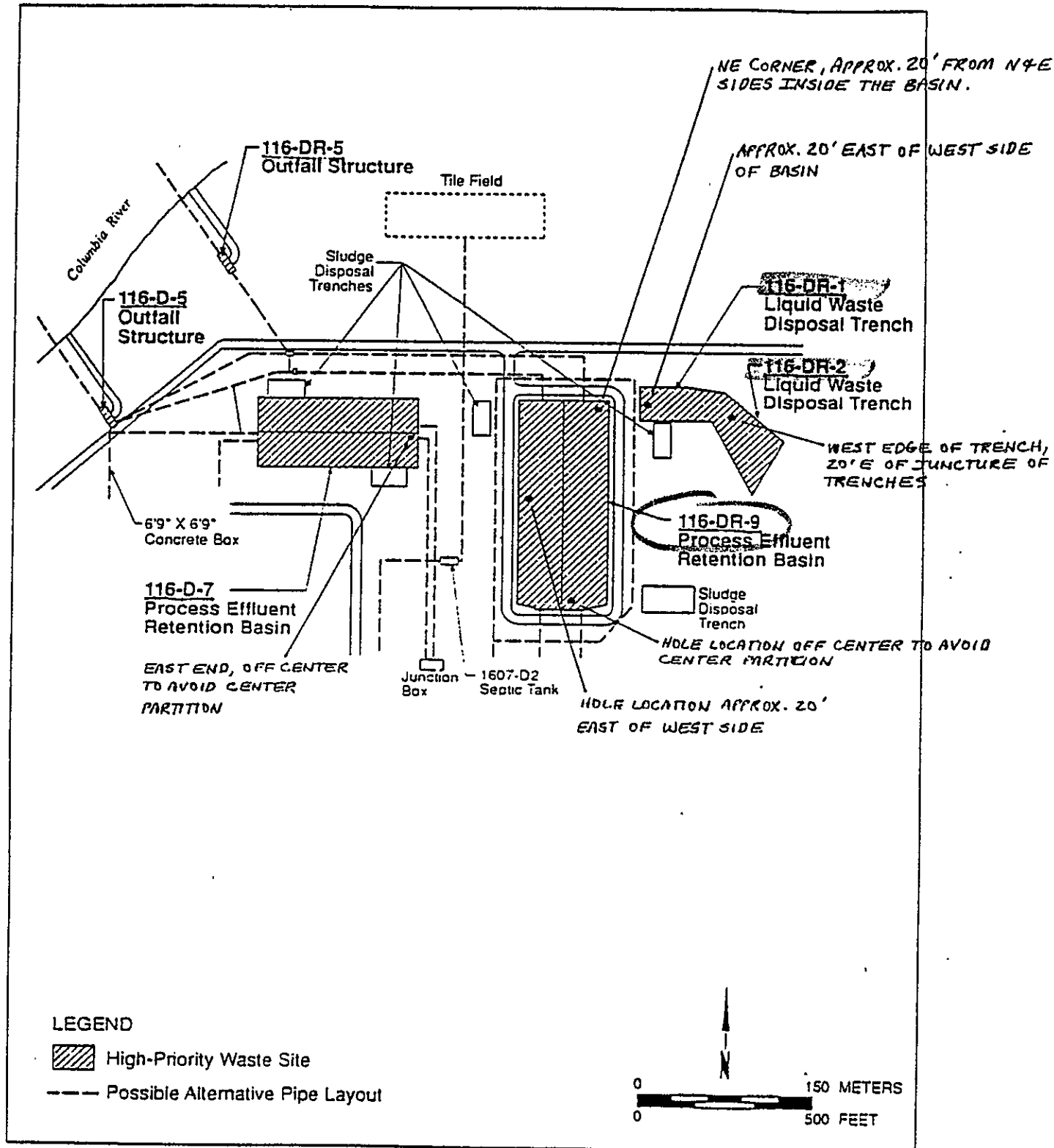
Needs approval from Regulators for the pit locations for these two tanks. One sample each will be collected at a depth of four feet.

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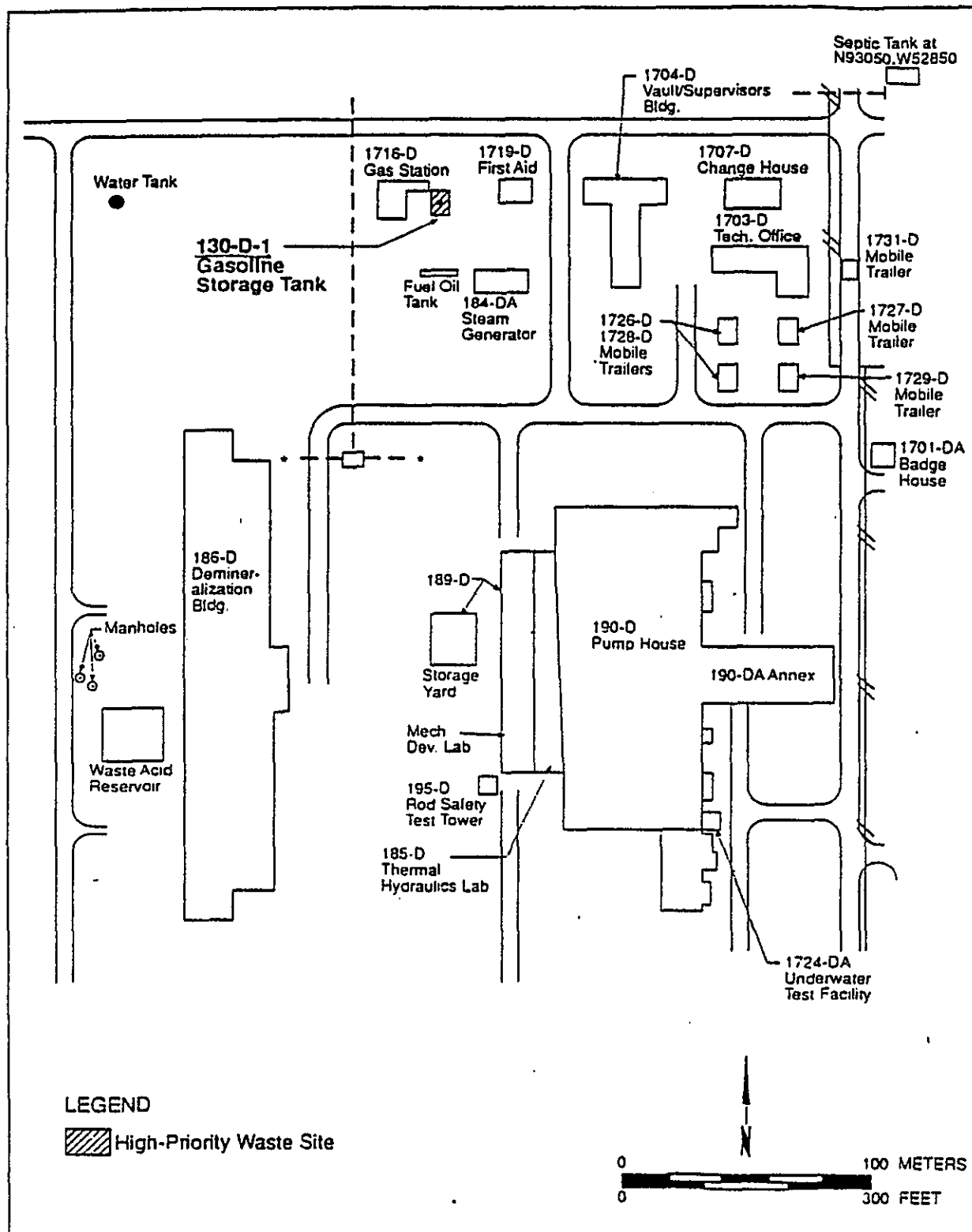
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Figure 5-1. High-Priority Liquid Waste Facilities in Vicinity of 118-D-6 Reactor Building.



903 1273/36298/9-6-91

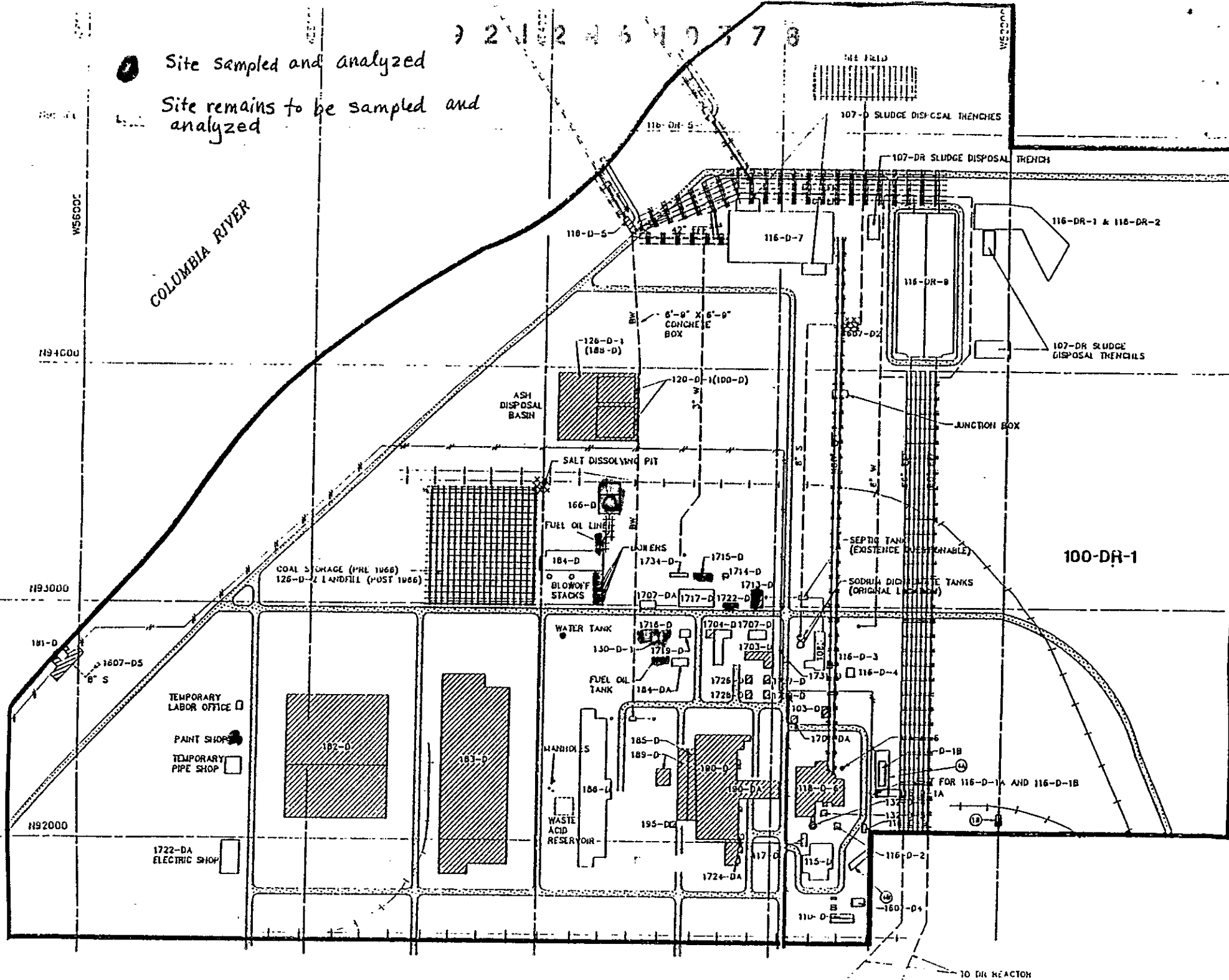
Figure 5-2. High-Priority Liquid Waste Facilities in the Vicinity of Retention Basins.



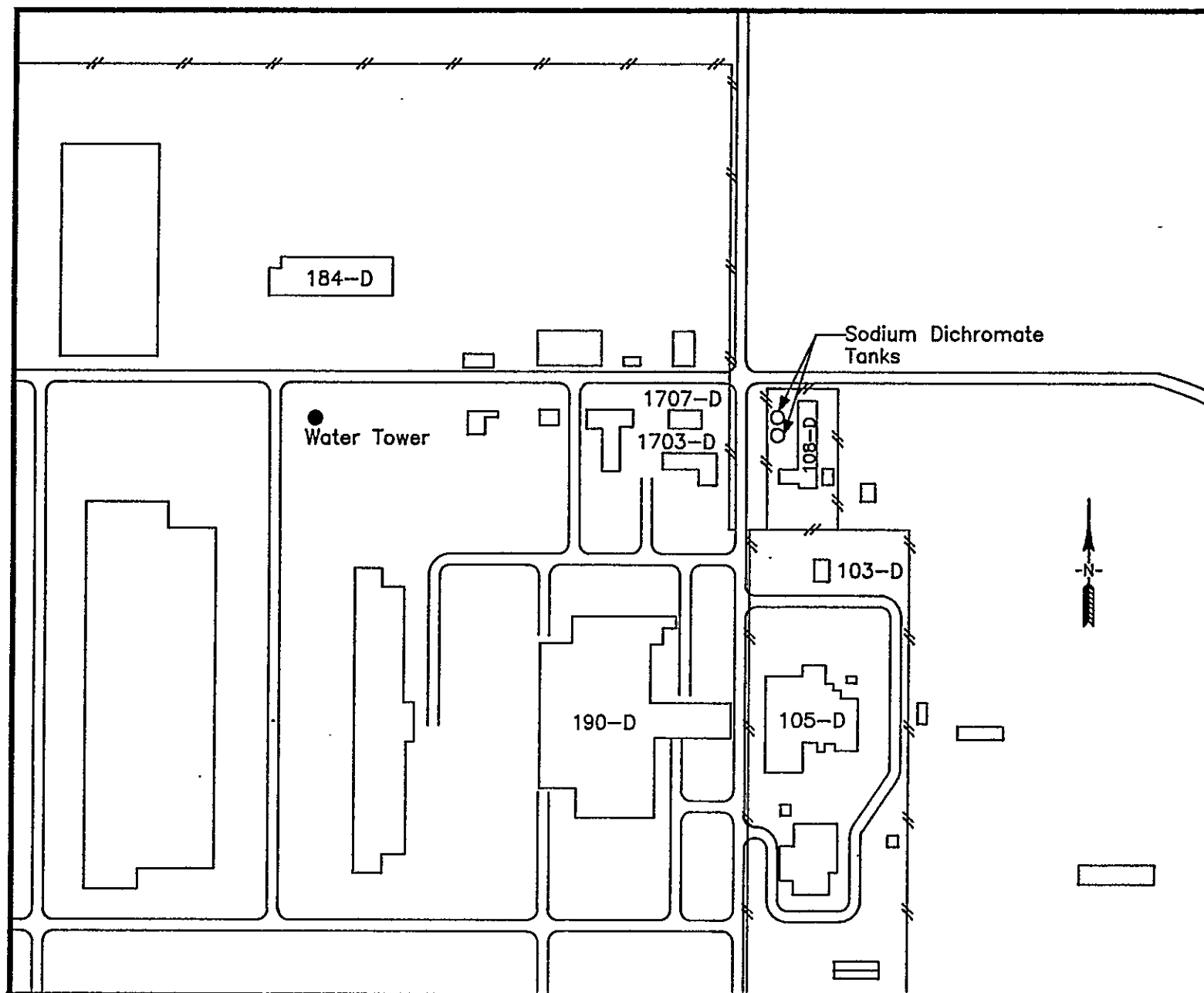
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Figure 5-3. 130-D-1 Gasoline Storage Tank Liquid Waste Facility

COLUMBIA RIVER



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